SPECIFICATION AMENDMENTS

Page 1, paragraph at lines 6-10:

The instant invention relates to high temperature resistant materials capable of withstanding continuous exposure to high temperatures, and more particularly to a high temperature resistant system for use in a catalytic converter for improved thermal ~~insolation~~ insulation and mechanical performance.

Paragraph from page 1, line 21, to page 3, line 1:

Until now, support systems for catalytic converters have generally been found to be less than satisfactory for cushioning the catalytic monolith against breakage from physical shocks, and for thermally insulating the catalytic monolith in the housing. It has been found that the deficiencies are at least partially due to the fact that only a limited number of materials can withstand the working temperature, up to about 1700.degree. F., found in a catalytic converter. One of the most common materials utilized for such support systems is stainless steel wire, which is knitted, woven, or otherwise processed into a form that can be compacted into a desired configuration suitable for use in a catalytic converter. However, support systems made from stainless steel wire are inherently porous, having void spaces which permit certain quantities of exhaust gases to pass through. Additionally, wire mesh does not prevent heat transfer from the monolith to the outer shell; too much heat flow can degrade the outer shell, resulting in uncomfortably warm temperatures in the cab compartment. This loss of heat also reduces the effectiveness of the catalyst because its efficiency is better at higher temperatures. There have been some attempts at overcoming this heat loss by utilizing ~~insolation~~ insulation materials. However, these materials are intumescent (i.e., they expand on heating), and require time and a build-up of temperature for them to expand. This raises cold-hold issues (e.g., cold temperatures, generally down to 0° F), compromising the effectiveness of the catalyst and the supporting seal, but only during initial engine start-up. Also, the intumescent material may not expand in a uniform manner, creating recovery problems as the can expands and contracts each time operating temperature is reached. Since the intumescent

material only expands once, it is important that it be done properly the first time. However, due to the additional cost and labor expenditures involved, manufacturers prefer not to pre-expand it; which would require the new car owner to drive the vehicle for a sufficient time to reach operating temperature and expand the material.

Paragraph from page 6, line 18, to page 7, line 15:

The support system 16 is formed using high temperature steel wire 38 that is formed against or around a flexible ~~insolation~~ insulation material 36 (FIGS. 4 and 5). The steel wire, for example only, can be knitted, woven, crimped, wound, or otherwise processed into a form that can be compacted. The flexible ~~insolation~~ insulation material is produced from refractory or non-refractory ceramic fibers, especially those that are body soluble such as a calcium-magnesium-silicate wool (e.g., SUPERWOOL brand, from Thermal Ceramics, Augusta, Ga.), which is flexible at ambient and elevated temperatures, and an organic binder in a unique paper making process. The particular binder material is preferably sacrificial in nature and is used only in the assembly process. However, it is the unique paper making process and fiber length that allows this ~~insolation~~ insulation media to function at ambient temperatures as well as temperatures of up to 1700.degree. F., with minimum out-gassing and using non-hazardous body soluble fibers. Additionally, the ~~insolation~~ insulation material is most preferably of the non-intumescent type. Small amounts of an intumescent material can be used (e.g., less than 20% of the ~~insolation~~ insulation material) in combination with the non-intumescent material, in which case some design modifications will be necessary, although 95% or all (100%) non-intumescent material can be used. An improvement over the prior art is provided by the ability of the present support system to be installed at ambient temperatures, as it must be wrapped around the catalytic monolith 12 (FIG. 3), to seal while the engine is still cold (i.e., when the car is first started), and for cushioning and sealing at the elevated operating temperatures.

Paragraph at page 8, line 18, to page 9, line 6:

The flexibility of ~~insolation~~ insulation material allows it to fill in the empty spaces of the mesh, thereby preventing some of the heat, emanating from the catalyst, from reaching the outer metal skin of the converter can. This provides for an extended life span of the can, as well as reduced heat transfer from the converter into the cabin of the vehicle. This also allows for increased catalytic efficiency because the temperature inside the converter is kept at a higher level; the greater the temperature within the converter, the greater the catalytic conversion of the engine exhaust. Another important benefit of using this material is that it contains only a very small percentage of sacrificial binder. Thus, the material exhibits very low binder burn out, assuring material integrity throughout the entire life of the product, extending the life span of the material, and consequently the life span of the entire catalytic converter.

Paragraph at page 9, line 21, to page 10, line 11:

The present arrangement has many advantages over the prior art, as discussed above. Additionally, the present invention is not effected by cold-hold issues, which are a problem with prior art systems using intumescent sealing material; such prior art systems are ineffectual until the temperature rises sufficiently to allow for the intumescent material to expand and form an effective seal. The present invention, on the other hand, utilizes a non-intumescent sealing material that holds its shape, and is thereby effective from the initial start-up. A further advantage over the prior art is that the non-intumescent material of the present invention is made using a very small amount of organic material (about 3% latex), and so the structural integrity of the sealing material is maintained after sacrifice of the binder. In contrast, prior art devices that utilize about 12% binder in their manufacture have relatively short-term effect; as the binder is burned out, the structural integrity and ~~insolation~~ insulation effect of the material deteriorate.